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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,549	07/25/2002	Harry Israel Ringermacher	RD-28294	1282
6147	7590	10/03/2005		
GENERAL ELECTRIC COMPANY GLOBAL RESEARCH PATENT DOCKET RM. BLDG. K1-4A59 NISKAYUNA, NY 12309			EXAMINER KALIVODA, CHRISTOPHER M	
			ART UNIT 2883	PAPER NUMBER

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/064,549	RINGERMACHER ET AL.	
	Examiner	Art Unit	
	Christopher M. Kalivoda	2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment received 07/11/2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3, 4, 8-10, 12-15, 18-23, 33-39 and 41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3,4,8-10,12-15,18-23,39 and 41 is/are allowed.
- 6) ☒ Claim(s) 33-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on July 25, 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments, filed July 11, 2005 with respect to claims 1, 12, 39 and 41 have been fully considered and are persuasive. The rejection of these claims is withdrawn.

However, the argument with respect to claim 33-37 are not persuasive. As claimed in claim 33, the imager is embedded in the subject and the subject is further defined to be a section of an aircraft and the imager is between the fuselage and insulation layer.

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In this case, the mouth and tooth are anal^agous to the fuselage and insulation layer with the imager in between.

Regarding claims 34-37, Sorenson is generally concerned with inspecting aircraft using x-rays (col 1, lines 33-37) and Foster is concerned with inspecting pipes. Yamamoto teaches the invention can be used in other x-ray applications in small regions (col 4, lines 41-43). Since the positioning of an imager to get the best image is known, placing the imager where needed to get an x-ray image of a component of an airplane plane or pipe is contemplated.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 33 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable

Yamamoto et al., U.S. Patent 5,519,751.

Regarding independent claim 33, Yamamoto et al. teach a digital imaging method for imaging a subject, said digital imaging method comprising:

embedding at least one digital imager in the subject (col 3, lines 65-col 4, line 1); activating a radiation source to expose the subject to a diverging radiation beam (Fig 1, ref sign 1), a portion of the subject being positioned between the radiation source and the digital imager; and collecting an image with the digital imager (Fig 1, ref sign 3).

While the reference does not specifically state "embedding", the device can be considered embedded since it is firmly/snugly enclosed in the subject.

Regarding claim 38, Yamamoto et al. teach the limitations of claim 33 as described above.

However, the reference is silent with respect to embedding a plurality of imagers in the subject.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to embedding a plurality of imagers in the subject, since it has been upheld that mere duplication of the essential working parts in a device involves only routine skill in the art (St Regis Paper v Bemis Co., 193 USPQ 8.)

The motivation for embedding a plurality of imagers in the subject is to image areas in a subject, which has multiple confined areas since Yamamoto et al. teach the

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device is used in restricted spaces (col 4, lines 32-36) and that the imager can be used in other x-ray apparatuses (col 4, lines 38-41).

Claim 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable Yamamoto et al., U.S. Patent 5,519,751 in view of Sorenson, U.S. Patent 6,636,581.

Regarding claims 34-36, Yamamoto et al. teach the limitations of claim 33 as described above. Furthermore, Yamamoto et al. teach the device is used in restricted spaces (col 4, lines 32-36) and that the imager can be used in other x-ray apparatuses (col 4, lines 38-41).

However, the reference is silent with respect to the subject comprising a section of an aircraft, fuselage, embedding the digital imager between the fuselage and insulation layer, a wing, embedding the digital imager within a wing and embedding a plurality of digital imagers in the subject.

Sorenson teaches that x-ray inspection of a subject such as aging aircraft would provide superior detection of cracks (col 1, lines 33-35).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to image a section of an aircraft or fuselage, embed the digital imager between the fuselage and insulation layer, image a wing, embed the digital imager within a wing and embed a plurality of digital imagers in the subject.

The motivation for using the imager of Yamamoto et al. with an aircraft fuselage or wing is that x-ray imaging for crack detection is superior and the panels and insulation would not have to be removed (col 1, lines 35-37).

Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable Yamamoto et al., U.S. Patent 5,519,751 in view of Foster, U.S. Patent 3,775,612.

Regarding claim 37, Yamamoto et al. teach the limitations of claim 33 as described. Furthermore, Yamamoto et al. teach the device is used in restricted spaces (col 4, lines 32-36) and that the imager can be used in other x-ray apparatuses (col 4, lines 38-41).

However, the reference is silent with respect to embedding the imager in a section of pipeline.

Foster et al. teaches the use of x-ray imaging to inspect pipe welds (col 1, lines 1-4).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to embed the imager in a pipe.

The motivation is to examine welds to identify cracks (col 1, lines 1-4).

Allowable Subject Matter

Claims 1, 3, 4, 8-10, 12-15, 18-23, 39 and 41 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding independent claims 1 and 39, the prior art of record, taken alone or in combination, fails to disclose or render obvious an imager for imaging a

subject illuminated by incident radiation, the imager comprising TFTS with a semiconductive region comprising an organic semiconductor disposed over the gate electrode and a source electrode and drain electrode in contact with the semiconductive region in combination with the rest of the limitations of the base claim.

Independent claim 8 is allowed for the reasons stated in a previous office action (Paper 110904).

Independent claim 15 is allowed for the reasons stated in a previous office action (dated May 13, 2005).

Claims 12; 3, 4, 9, 10, 13 and 14; 18-23; and 41 depend on claims 1, 8, 15 and 39 respectively and therefore they are also allowed.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Kalivoda whose telephone number is (571) 272-2476. The examiner can normally be reached on Monday - Friday (8:30 - 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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09/29/05

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